Abstract of the Disclosure

A stackable microcircuit layer formed from a plastic encapsulated microcircuit (PEM) and method of making the same is disclosed. The method involves the steps of starting with a commercially available PEM (e.g. a plastic Thin Small Outline Package or TSOP) that contains a microcircuit or die within an encapsulant and modifying the PEM to expose conductive members that are electrically connected to the microcircuit's bond pads. In the case of a TSOP, the preferred modifying step is accomplished by top grinding the TSOP in order to remove the lead frame that was secured above the die and encapsulated along with it in the TSOP. Next, reroute metallization is applied in order to connect the conductive members that were exposed by the top grinding, to an edge of the modified PEM. Finally, if appropriate, the modified PEM is thinned through backside grinding and diced to a desired area, in order to provide a stackable microcircuit layer that may form a part of a dense electronic package. The PEM may be of any suitable type and the stackable microcircuit layers that results from application of this invention may be stacked as provided or included in "neo-chips" that are of greater area, that include additional die, or both. The stackable microcircuit layers made according to this invention beneficially use PEMs that are readily available and that include die that were typically "burned in" by the manufacturer rather than merely tested on a statistical basis as is usually the case with bare die.